TARNAI, Karoly, dr.

Monolateral resection and metallic replacemnt of the mandible in mucoepidermoid tumor. Magy. sebeszet 9 no.3:181-188 June 56

1. A Budapesti Orvostudomanyi Egyetem St omatologiai Klinikajanak kozlemenye. Igazgato: Balogh Karoly dr. egyetemi tanar.

(MIXED TUMORS, SALIVARY
mucoepidermoid tumor of mandible, monolateral resection of mandible & replacement by vitallium prosthesis (Hun))
(MANDIBLE, neoplasms
mucoepidermoid tumor, monolateral resection of mandible & replacement by vitallium prosthesis (Hun))

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAI, Karoly, dr.

On the fate of metals in the mandibular cavity with observations on 50 cases. Magy sebeszet 13 no.6:349-352 D '59.

1. Kozlemeny a Budapesti Orvostudomanyi Egyetem Fogaszati Klinikajarol Igazgato: Balogh Karoly dr. egyetemi tanar.
(MANDIBLE surg)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

PEYSAKHSON, I.V.; TARNAKIN, I.N.

Calculation of the aberration of concave diffraction gratings. Part 2: Calculation of aberrations and estimation of the resolving power of the grating. Zhur. prikl. spekt. 2 no.3: 218-222 Mr '65. (MIRA 18:6)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAPOL'SKIY, F., starshiy leytenant

AA battery occupies a firing position from the march. Voen.vest. 40 no.2:83-85 F '61. (MIRA 14:2)
(Antiaircraft artillery)

TARNAPOLSKIY, I.M.

PA - 2521

AUTHOR: TARNOPOLSKIJ,I.M.

TITLE: The Work Performed by a Spatially curved rod in a Generalized Elastic Medium.(Russian)

PERIODICAL: Latvijas PSR Zinatnu Akad. Westis, 1957, Vol 1, Nr 1 (114), pp 111 - 120 (U.S.S.R.) Received: 5 /1957 Reviewed:6/1957

ABSTRACT: Weinberg's solution is given on the assumption that the vertical effect of the elastic base T and the retroactive moment of rotation (per unit of length of the rod axis) are proportional to the respective deformations.
Weinberg's results are, however, not applicable to problems in which the elastic retroaction of the surroundings is more complicated than in the case of the spatial stress brought to bear on to the rim of a wheel.
First the properties of the elastic base plate are investigated. Next, the differential equation of the curved axis of a rim is given. With equilibrium equations and two further equations the basic equation of the elastic line of the rim is obtained.
The detailed solution of this equation is given in Weinberg's paper. Supposing the radicals are real numbers and that one force acts upon the rim, the formula for deformation and the formula for the angle of distorsion is obtained. On the basis of the equations connecting the interior forces and deformations the formulae for the computation and determination

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

The Work Performed by a Spatially Curved Rod in a Generalized Elastic Medium. PA - 2521

of interior forces can be derived. The formula for the bending moment is given.
On the basis of the example of the bicycle "Riga 10" the applicability of the above mentioned formulae was tested experimentally with a view of determining the strength and rigidity of normal constructions. Experimental as well as computed results are plotted in a diagram. Average deviations are less than 6 %. For purposes of computation the number of pairs of spokes was assumed to be 18. This number may be assumed to be sufficient in order to assume the elastic base plate to be continuous. If 36 pairs of spokes are assumed the results show a divergence of 4 %. The formulae obtained make it possible not only to test the strength and elasticity of a bicycle, but also to find such an important constructive parameter for every type of rim as the division of spokes. Computation carried out for the rim of the "Riga 10" bicycle showed that only on the basis of an optimum division of spokes on the rim the elasticity of the construction can be diminished by more than 50 %.

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

PA - 2521

The Work Performed by a Spatially Curved Rod in a Generalized Elastic Medium.

ASSOCIATION: Laboratory for Machine Technology of the Academy of Science of the Latvian SSR.

PRESENTED BY:

SUBMITTED:

AVAILABLE: Library of Congress.

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

LEYBOVICH, Kh.M., kand. tekhn. nauk; TARNARUTSKIY, G.M., inzh.

Water repellent cement with synthetic additives. TSement 31 no. 6:11-12 N-D '65. (MIRA 18:12)

1. Vsesoyuznyy gosudarstvennyy nauchno-issledovatel'skiy institut tsementnoy promyshlennosti.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNARUTSKIY, M.A., inzh.; ZHOLOBOV, B.Kh., inzh.; BROVTSEV, V.A., inzh.

Machine for the welding of flanges to pipes. Svar. proizv. no.9:20-22 S '61. (MIRA 14:8)

1. Luganskiy teplovozostroitel'nyy zavod im. Oktyabr'skoy revolyutsii.
(Electri. welding—Equipment and supplies)
(Pipe flanges—Welding)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

ZHOLOBOV, B. Kh., inzh.; TARNARUTSKIY, M. A., inzh.; BROVTSEV, V. A., inzh.

Machine for the cutting of shaped ingots. Svar. proizv. no.10:30-31 O '62. (MIRA 15:10)

1. Luganskiy teplovozostroitel'nyy zavod im. Oktyabr'skoy revolyutsii.

(Gas welding and cutting)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

ZHOLOBOV, B.Kh., inzh.; TARNARUTSKIY, M.A., inzh.; BROVTSEV, V.A., inzh.

Equipment for the automatic welding of girth joints on parts of fluid flywheels. Svar.proizv. no.11:37 N '62. (MIRA 15:12)

1. Luganskiy teplovozostroitel'nyy zavod im. Oktyabr'skoy revolyutsii.
(Flywheels—Welding)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

ZHOLOBOV, B.Kh., inzh.; TARNARUTSKIY, M.A., inzh.; BROVTSEV, V.A., inzh.

Mechanized cutting and welding. Mashinostroenie no.5:82-85 S-O '63. (MIRA 16:12)

1. Luganskiy teplovozostroitel'nyy zavod.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNARUTSKIY, M.A., inzh.; ZHOLOBOV, B.Kh., inzh.; BROVTSEV, V.A., inzh.

Machine for welding tips to long, small-diameter tubes.
Svar. proizv. no.11:32-33 N'63. (MIRA 17:5)

1. Luganskiy teplovozostroitel'nyy zavod im. Oktyabr'skoy revolyutsii.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

ZHOLOBOV, B.Kh., inzh.; TARNARUTSKIY, M.A., inzh.; BROVTSEV, V.A., inzh.

Modernization of the machine for simultaneous gas-torch cutting of shaped billets with seven cutting torches. Mashinostroenie no. 2:32-33 Mr-Ap '64. (MIRA 17:5)

YESHCHENKO, A.V.; ZHOLOBOV, B.Kh.; TARNARUTSKIY, M.A.

Introducing automatic machine for welding nozzles and connecting branches to pipes. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst. nauch.i tekh.inform. 18 no.9:14-16 S '65. (MIRA 18:10)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAS, Wieslaw

The siliceous earth in Lublin Voivodeship. Przegl geol 11 no.1:21-26 Ja '63.

1. Prezydium Wojewodzkiej Rady Narodowej, Lublin.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAU-MORAWSKA, M.

"Origin of marine siliceous sediments," Przeglad Geologiczny, Warszawa, No 8, Aug. 1954, p. 311.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

PINTEA, C.; TARNAUCEANU, E.; UNTU, A.; CIUREA, G.; LEONTE, A.

Efficiency of combined microelements applied to corn, sunflowers, and sugar beets. Studii biol agr Iasi 13 no.2:349-358 '62.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAUSKAS, E. A. Cand Med Sci -- (diss) "Colposcopy in the diagnosis of ~~the~~ early stages of cancer of the cervix of the uterus." Len, 1957. 12 pp 22 cm (1st Len Med Inst im Academecian I. P Pavlov. Chair ~~of Obstetrics and Gynecology~~ Obstetrical Gynecological Chair. Kaunas State Med Inst.) 200 copies. (KL, 23-57, 117)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAUSKAS, E.A.

Colposcopy in the diagnosis of early cervical cancer Akush. i gin. 32 no.5:45-49 S-O '56. (MIRA 10:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. I.I.Yakovlev) I Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova i kafedry akusherstva i ginekologii (zav. - prof. P.Mazhilis) Kaunasskogo meditsinskogo instituta.

(CERVIX NEOPLASMS, diag.
early, colposcopy)
(ENDOSCOPY, in various dis.
colposcopy in diag. of early cervical cancer)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

S/137/61/000/012/101/149
A006/A101

AUTHORS: Tarnava, B. I., Chirkin, V. V.

TITLE: Advanced welding methods used at the "Teplokhod" plant

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 25, abstract 12E153 ("Proizv.-tekhn. sb. Tekhn. upr. M-va rechn. flota RSFSR" 1960, no. 7, (11), 34-51)

TEXT: Information is given on advanced welding methods and equipment used at the "Teplokhod" plant; a unit for the automatic submerged arc-welding of flanges to cups and spheres of spherical joints of a dredging pipeline; automatic and semi-automatic machines used in boiler-building; automatic submerged-arc welding of circumferential boiler seams; a unit and technology for semi-automatic welding of parts to boiler drums; one-sided welding of longitudinal seams on boiler pipes, quality control and acceptance of boiler welding work; automatic and semi-automatic machines for the semi-automatic and automatic welding used in shipbuilding, technology of welding in CO_2, welding in CO_2 in shipbuilding, gas-electric torches for semi-automatic welding used at the "Teplokhod" plant.

V. Tarisova

[Abstracter's note: Complete translation]

Card 1/1

TARNAVSCHI, I.; RADULESCU, D.

Description of some new forms of Desmidiaceae turficole in the Dorna basin, Suceava region. p. 437. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 6, no. 3, Mar. 1956.

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5, no. 9, Sept. 1955

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

RUMANIA / General Biology. Cytology. B-2

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42752.

Author : Tarnavschi, I. T., Melber, D.
Inst : Not given.
Title : Cytological Studies of a Sexual Hybrid Between Triticum Vulgare Vill. x Triticum Durum Desf. and Certain Other Varieties of the District.

Orig Pub: An. Univ. "C.I. Parhon." Ser. Stiint. natur., 1957, No 13, 123-137.

Abstract: Cytological characteristics are given of varieties T. vulgare Vill. var. erythrospermum Körn. (variety A_{15}) (2n = 42) and T. durum Desf. var. coerulescens Bayle (variety autumn Arnaut, Turgu-Nyamts) (2n = 28), as well as their hybrid (2n = 21 chromosome A_{15} + 14 chromosome Arnaut-35). The behavior of chromosomes in meiosis manifests an unstable character in the

Card 1/2

RUMANIA / General Biology. Cytology. B-2

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42752.

Abstract: hybrid. Some other wheat varieties assigned to the district were studied. As a starting material for hybridization Melyanopus 69 and Lutescens 62 are recommended, the meiosis of which proceeds normally.

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, I.;OLTEANU, M.

Material for an outline on Rumanian algae. II. (Conclusion) p. 317.

STUDII SI CERCETARI DE BIOLOGIE. SERIA BIOLOGIE VEGETABLA. Bucuresti
Vol. 10, no. 4, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1, January 1960.

Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, I;PADURESCU, D.

Studies on the pollen morphology of the Campanula from the flora of Rumania. In German. p. 5

REVUE DE BIOLOGIE. JOURNAL OF BIOLOGY.(Academia Republicii Populare Romine) Bucuresti, Rumania
Vol.4, no.1, 1959

Monthly list of Eastern European Acession Index (EEAI), LC Vol. 8, No. 11 November 1959
Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion T.; MITROIU, Natalia

Research on the morphology of pollen of the family Compositae of Romania's flora. Studii cerc biol veget 11 no.3:213-271 '59.
(EEAI 10:3)

1. Laboratorul de Morfologia plantelor al Facultatii de stiinte naturale Bucuresti
(Rumania--Compositae) (Pollen)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion T.; RADULESCU, Didona

Morphologic studies on the microspores of Boraginaceae in the flora fo Rumania. Studii cerc biol veget 12 no.1:73-97 '60. (EEAI 10:1)

1. Laboratorul de Morfologia plantelor a Facultatii de stiinte naturale Universitatea "C.I.Parhon," Bucuresti. Comunicare prezentata de academician Em. Pop.
(Rumania--Boraginaceae)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion T., prof., dr.

Al. Beldie and C.Pridvornic's Flori din muntii nostri (The Flowers of Our Mountains); a book review. Studii cerc biol veget 12 no.1: 145 '60. (EEAI 10:1)

(Beldie, Alexandru)
(Pridvornic, Constantin)
(Rumania--Flowers)

TARNAVSCHI, Ion T.; RADULESCU, Didona

Morphologic research on the pollen of the species Ericales in the flora of Rumania. Studii cerc biol veget 12 no.2:165-175 '60.

(Rumania--Ericales) (Pollen) (EEAI 9:11)

TARNAVSCHI, Ion T.; MITROIU, Natalia

Investigations on the morphology of the pollen of the families Papaveraceae and Resedaceae of the order Rhoeadales. Studii cerc biol veget 12 no.4:403-423 '60. (EEAI 10:5)
(Resedaceae) (Rhoeadales) (Papaveraceae)
(Pollen)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion, T.; OLTEAN, Mircea

Gomphonema Teodorescui n. sp., a new species of Diatomeae, in the algological flora of Rumania. Comunicare AR 11 no.6:675-677 Je '61.

1. Laboratorul de morfologia plantelor de la Facultatea de stiinte naturale a Universitatii "C. I. Parhon", Bucuresti. Comunicare prezentata de St. Peterfi, membru corespondent al Academiei R.P.R.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion T.; RADULESCU, Didona

Contributions to the knowledge of the morphology of the microspores of the cucurbitaceae. Studii cerc biol veget 13 no.1:29-47 '61. (EEAI 10:9)

1. Comunicare prezentata de academician Emil Pop.

(Microsporum) (Cucurbitaceae) (Botany)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, I.T., prof. dr.

The centennial of the Botanical Garden of Bucharest. Natura Biologie 13 no.6:84 N-D '61.

1. Directorul Gradinii botanice, Bucuresti, si Membru al Comitetului de redactie, "Natura, Seria biologie."

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, Ion T., Prof., Dr.

The hundredth anniversary of the Botanical Garden of the University of Bucharest. Rev biol 7 no.2:299-301 '62.

1. Directeur du Jardin Botanique de l'Université de Bucarest.

TARNAVSCHI, I. T., dr., prof. univ.

The 3d national conference of geobotany. Natura Biologie 14 no. 1, 19-28 Ja-F '62.

1. Presedintele Sectiei de botanica a Societatii de Stiinte Naturale si Geografie, Bucuresti, si membru al Comitetului de redactie, "Natura, Seria Biologie".

ROMANIA

Dr Ion T. TARNAVSCHI, Prof Univ; President of Botany Section of the Society for Natural Sciences and Geography of the Rumanian People's Republic (presedintele Sectiei Botanica a Societatii de Stiinte Naturale si Geografie din R.P.R. /Republica Populara Romina/.)

"The Fourth (Banat) Conference on Geobotany of the Society for Natural Sciences and Geography of the Rumanian People's Republic."

Bucharest, Natura Seria Biologie, Vol 14, No 6, Nov-Dec 1962; pp 3-11.

Abstract: Report on this 10-day conference held in Timisoara July 1962; 90 participants; only foreign one mentioned is Prof Matveeva of USSR; this conference was devoted to the Banat region, discussing medicinal plants, agricultural and industrial uses of various indigenous plants; various theoretical and practical aspects. The next conference will be held in Iasi and concern the Suceava - Bacau Regions. Map shows locations and areas discussed at the four conferences held.

1/1

TARNAVSCHI, L.; MITROIU, N.

Newly described Cyanophyceae from the algological tubary flora in Poiana Stampei. Suceava region. p. 51.

(BULETIN STIINTIFIC. SECTIA DE BIOLOGIE SI STINTE AGRICOLE. Vol. 9, No. 1, Jan./Mar. 1957. Rumania)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 10, October 1957. Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, L.; RADULESCU, D.

Contribution to the knowledge of the development and morphology of trap openings in certain carnivorous plants. In German. p. 67.

REVUE DE BIOLOGIE. JOURNAL OF BIOLOGY. (Academia Republicii Populare Romine) Bucuresti, Rumania. Vol. 3, no. 1, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959.

Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSCHI, L;OLTEANU, M.

Material for an outline on Rumanian algae. II. (To be contd.) p. 269.

STUDII SI CERCETARI DE BIOLOGIE. SERIA BIOLOGIE VEGETABLA. Bucuresti.
Vol. 10, no. 3, 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 9, no. 1, January 1960.

Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSKAYA, M. I., Cand Med Sci -- (diss) "Effect of disorders of the thyroid gland function on the course of experimental Brown-Pierce tumor." Kiev, 1960. 12 pp; (Kiev Order of Labor Red Banner Med Inst im Academician A. A. Bogomol'ts); 250 copies; price not given; (KL, 18-60, 157)

DANILEVSKIY, N.F., kand.med.nauk (Kiyev); VERKHRATSKIY, N.S., assistent (Kiyev); TARNAVSKAYA, M.I., assistent (Kiyev)

Morphological picture of paradentosis in the treatment of vitamin C deficiency in guinea pigs with ascorbic acid and a vitamin P preparation from conifer needles. Probl.stom. 4:73-80 '58. (MIRA 13:6)

(GUMS--DISEASES) (DEFICIENCY DISEASES)
(ASCORBIC ACID) (VITAMINS--P)

TARNAVSKAYA, M.I., assistent (Kiyev)

Change in the teeth and periodontium in experimental fluorosis.
Probl.stom. 4:143-150 '58. (MIRA 13:6)
(FLUORINE--PHYSIOLOGICAL EFFECT) (GUMS) (TEETH)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TARNAVSKAYA, M.I.

Influence of one-sided vagotomy on the growth of a tumor developing during a changing concentration of thyroid hormone in the animal's body. Vrach.delo no.11:1141-1143 N '59. (MIRA 13:4)

1. Nauchnyy rukovoditel' raboty - prof. I.M. Peysakhovich.
(VAGUS NERVE--SURGERY) (TRACHEA--TUMORS) (THYROXINE)

TARNAVSKAYA, M.I. (Kiyev)

Change in the intensity of tumor growth in experimental hypothyreosis and hyperthyreosis. Vrach.delo no.1:11-13 '60. (MIRA 13:6)

1. Nauchnyy rukovoditel' raboty - prof. I.M. Feysakhovich.
(THYROXINE) (CANCER)

TARNAVSKAYA, M.I.

Age-related characteristics of the paradentium. Probl.stom. 6:48-56 '62. (MIRA 16:3)

(GUMS—AGING)

TARNAVSKAYA, M.V.

21-5-6/26

AUTHORS: Tarnavskaya, M.V. (Tarnavs'ka, M.V.) and Yakovlev, V.A. (Yakovlyev, V.A.)

TITLE: Excitation Spectrum of a System of Many Particles in a Magnetic Field (Spektr vozbuzhdeniy sistemy mnogikh chastits v magnitnom pole)

PERIODICAL: Dopovidi Akademii Nauk Ukrains'koi RSR, 1957, Nr 5, pp. 448-452 (USSR)

ABSTRACT: The author gives the results of an investigation of excitation spectrum in systems of charged particles of one sign being in a constant homogeneous magnetic field. These results can be applied to an electron plasma. The formula for a "dispersion equation" (formula 6) takes into account all the quantum effects for the case of particles interacting according to any central law. The most complete results are obtained for the particles with the Coulomb interaction law (for "plasma"). The method of density matrix is employed, and the presence of half-integer spin of the particles and correlation due to identity of the particles are taken into consideration. The dispersion equation obtained connects the oscillation frequency with the wave vector. The equation is solved, by means of expansion into series by Bessel functions, for two cases of low temperatures (formula 10) and high temper-

Excitation Spectrum of a System of Many Particles in a Magnetic Field

atures, when the degeneration of the electron gas is left without consideration (formula 12). It can be shown by this method that magnetic field strength does not affect the excitation spectrum of Bose-particle systems at T = 0. The article contains 6 Slavic references.

ASSOCIATION: Chernovtsy University

PRESENTED: By V.Ye.Lashkarev (Lashkar'ov), Member of the AN Ukrainian SSR

SUBMITTED: 20 October 1956

AVAILABLE: Library of Congress

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

S/181/63/005/003/019/046
B102/B180

AUTHORS: Tovstyuk, K. D., and Tarnavskaya, M. V.

TITLE: Investigation of the energy spectrum of crystals with $O_h^1 - O_h^{10}$ structure

PERIODICAL: Fizika tverdogo tela, v. 5, no. 3, 1963, 819-838

TEXT: The energy characteristics of all symmetry groups from O_h^1 to O_h^{10}, which are calculated by means of group-theoretical methods, are clearly represented and discussed. The compatibility of the representations, the points of zero inclination of the energy in the Brillouin zone and the dispersion laws in their environment are determined. There are 3 figures and 6 tables.

ASSOCIATION: Chernovitskiy gosudarstvennyy universitet (Chernovtsy State University)

Card 1/2

Investigation of the energy spectrum of ... S/181/63/005/003/019/046
B102/B180

SUBMITTED: July 23, 1962 (initially)
October 8, 1962 (after revision)

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TOVSTYUK, K.D.; BUDZHAK, Ya.S.; TARNAVSKAYA, M.V. [Tarnavs'ka, M.V.]

Structure of current carrier zones in PbSe. Ukr. fiz. zhur. 8 no.7:795-797 Jl '63. (MIRA 16:8)

(Lead selenide—Electric properties)

TARNAVSKAYA, M.V. [Tarnavs'ka, M.V.]

Structure of the energy zones of current carriers in crystals of the $Cd_3N_2(Th^7)$ type. Ukr. fiz. zhur. 8 no.9:961-966 S '63. (MIRA 17:8)

1. Chernovitskiy gosudarstvennyy universitet.

ACCESSION NR: AP4040932 S/0185/64/009/006/0629/0641

AUTHOR: Tovstyuk, K. D., Tarnavs'ka, M. V. (Tarnavskaya, M. V.)

TITLE: Symmetry of energy zones of charge carriers in crystals of cubic syngony [symmetry]

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 6, 1964, 629-641

TOPIC TAGS: Symmetry, crystallography, space group, symmetry points, cubic symmetry, cubic syngony, brillouin zone, energy band structure, band structure, crystal symmetry, group theory

ABSTRACT: Group theory is used to investigate the zone structure of crystals of cubic syngony: space groups T, O, Td and Th. The brillouin zone for groups of simple cubic syngony (T^1, T^4, O^1, O^2, O^6, O^7, T_d^1, T_d^4, T_h^1, T_h^2, T_h^6) is given in Figure 1 of Encl. 01. The brillouin zone for groups of face-centered cubic syngony (T^2, O^3, O^4, T_d^2, T_d^5, T_h^3, T_h^4) is given in Figure 2 of Encl. 01; that for groups of body-centered cubic syngony (T^3, T^5, O^5, O^8, T_d^3, T_d^6, T_h^5, T_h^7) is given in Figure 3 of Encl. 01. Extensive tables give points of zero slope of the energy bands for all these groups. Symmetry notation agrees with the symbology of O. V. Kovalev Neprivodimy*ye Predstavleniya Prostranstvenny*kh Grupp (irreducible representations

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

ACCESSION NR: AP4040932

of space groups), Kiev, Izd-vo AN UkrSSR] Spin-orbit interactions and time-inversion were taken into account. The dispersion relation for the extremum sphere is found. Orig. art. has 19 numbered formulas and 12 tables.

ASSOCIATION: Chernivets'kyy derzhuniversytet (Chernivetskiy State University)

SUBMITTED: 16Sep63 ENCL: 01

SUB CODE: GS NO REF SOV: 007 OTHER: 001

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

TOVSTYUK, K.D.; TARNAVSKAYA, M.V. [Tarnavs'ka, M.V.]

Symmetry of energy bands of current carriers in cubic crystals. Ukr. fiz. zhur. 9 no.6:629-641 Je '64. (MIRA 17:11)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

BARANOV, S.N.; TARNAVSKAYA, N.Ye.

Synthesis of pteridines from 4,5-diaminopyrimidines and α - thioketo acids. Ukr. khim. zhur. 23 no.5:646-650 '57. (MIRA 10:11)

1. L'vovskiy meditsinskiy institut, kafedra organicheskoy khimii.
(Pteridine) (Pyrimidine) (Acids, Organic)

BARANOV, S.N.; TARNAVSKAYA, N.Ye.

Synthesis of pteridines from 4,5-diaminopyrimidines and α-thioketo-acids. Ukr. khim. zhur. 24 no.4:472-476 '58. (MIRA 11:10)

1. L'vovskiy meditsinskiy institut, kafedra organicheskoy khimii.
(Pteridine) (Pyrimidine) (Acids, Organic)

BARANOV, S.N.; TARNAVSKAYA, N.Ye.

Reactions of α-thioketo acids with o-diamines. Part 3: Synthesis of pteridines from 4,5-diaminopyrimidines and aromatic α-thio acids. Ukr. khim. zhur. 26 no.5:626-632 '60. (MIRA 13:11)

1. L'vovskiy meditsinskiy institut, kafedra organicheskoy khimii.
(Pteridine) (Pyrimidine)

TARNAVSKIY, A. L.

"Effectiveness of Wire Drawing With a Counterstrain." Cand Tech Sci, Moscow Inst of Steel, Moscow, 1954. (RZhMekh, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

TARNAVSKIY, A. L

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Skorostnoye Volocheniye Nizkougerodistoy Stal'nay Provoloki (High Speed Drawing of Low Carbon Steel Wire, By) I. N. Nedovizy i A. L. Tarnavskiy. Moskva, Metallurgizdat, 1954.

188 p. Illus., Charts, Diagrs., Tables.

Pickling vats (made) of marshallite. I. M. Nedoviell and A. L. Tarnavskil (Mining-Met. Inst., Magnitogorsk). *Stal'* 15, 362–61(1955).—Vats of acid-proof concrete were made by mixing specific amts. of various-size fraction of marshallite with Na silicate of d. not less than 1.4 and SiO_2/R_2O ratio not less than 2.66 and Na_2SiF_6. Steel reinforcing mesh or tension bolts were used to prevent formation of cracks. Precautions for use are given. V. N. Bedmarski

MG

(1)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

SOV/137-57-1-575

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 75 (USSR)

AUTHOR: Tarnavskiy, A. L.

TITLE: Determination of the Coefficient of Friction by the Rotating-draw-plate Method and Conditions to Which It Is Applicable (Metod vrashchayushcheysya voloki dlya opredeleniya koeffitsiyenta treniya i usloviya yego primenimosti)

PERIODICAL: V sb.: Metiznoye proiz-vo. Nr 1, Moscow, Metallurgizdat, 1956, pp 10-18

ABSTRACT: This method, proposed by "Zaks" and "Linikus" [translit.], does not take into consideration the friction in the cylindrical section of the draw plate (DP) and, therefore, yields overrated values of the coefficient of friction (CF). A new formula for the computation of the CF is suggested which takes into account the friction in the cylindrical portion of the DP. As demonstrated by experiment, the discrepancy in values obtained is particularly pronounced in the case of limited drawing, i.e., under conditions when the friction in the cylindrical portion of the DP (not taken into consideration in the "Zaks" formula) is predominant. The formula for the number of revolutions of the DP

Determination of the Coefficient of Friction by the Rotating-draw-plate (cont.)

is determined on the assumption that the speed of rotation must exceed the rate of drawing by a factor of 10. The "Zaks" experiments were conducted at low revolutions and, consequently, resulted in underrated values of the CF. The experiments were conducted on a special device permitting extensive variation of the ratio of the number of revolutions n and the speed of drawing v. The force required for drawing was measured with the aid of a weight mechanism. It was proved experimentally that the method of rotating DP yields various values of the CF depending on the n/v ratio. The applicability of this method is governed by the relationship between the velocities of the DP and the rates of drawing. Applied to wire drawing, this method may prove to be efficient provided that certain conditions are satisfied which restrict its application to drawing of wires of large cross-sectional area. Experiments failed to substantiate the assumption that high draft values may be achieved by the method of drawing through a rotating DP (an opposite effect was observed). Owing to an increase in the amount of work done against friction, and because of additional losses in the drive of the revolving mechanism, the total consumption of energy for both drawing and rotation is greater than in the case of standard drawing. An increase in the quantity of work required to overcome friction results in more rapid wear.

Card 2/2

V. O.

FOMIN, G.M.; LAPSHIN, L.Ya.; TARNAVSKIY, A.L.; KAGAN, I.S.; CHERNIKHOV, V.S.

Increasing the diameter of steel rods for wire drawing. Metallurg 8 no.8:24-26 Ag '63. (MIRA 16:10)

1. Magnitogorskiy kalibrovochnyy zavod i Nauchno-issledovatel'skiy institut metiznoy promyshlennosti (for Fomin, Lapshin, Tarnavskiy).
2. Dnepropetrovskiy metallurgicheskiy institut (for Kagan, Chernikhov).

TARNAVSKIY, A.L., kand. tekhn. nauk; GAYDUCHENKO, V.I., inzh.

Making thin shaped wire with a roller draw die. Stal' 23 no.10: 951-953 O '63. (MIRA 16:11)

1. Magnitogorskiy nauchno-issledovatel'skiy institut metiznoy promyshlennosti.

VOLOSHCHUK, V.U.; TRIFONOVA, R.G.; ZVEREVA, Ye.V.; TARNAVSKIY, A.L.; ASHURKINA, Ye.M.; IVANOV, V.P.

New developments in research. Stal' 23 no.9:858 S '63. (MIRA 16:10)

TARNAVSKIY, A.L.

137-58-2-2981

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 108 (USSR)

AUTHOR: Tarnavskiy, A.L.

TITLE: The "Efficiency" of a Principal-stress Pattern (Effektivnost' skhemy glavnykh napryazheniy)

PERIODICAL: Sb. nauchn. tr. Magnitogorskiy gornometallurgich. in-t, 1957, Nr 11, pp 225-237

ABSTRACT: The wire-drawing process is characterized by two principal compression stresses and one tensile stress. This being the case, resistance to deformation decreases as the state of volumetric stress is intensified. As suggested by S.I.Gubkin,

$$\eta = (\sigma_1 + \sigma_2 + \sigma_3) / 3\sigma_{max}$$

was taken to represent the pattern of the principal stresses. η characterizes the intensity of the state of volumetric stress in the metal and the influence of the stress pattern on its resistance to deformation. The "efficiency" of the stress pattern is expressed by $\eta_э = (1 - \eta) \cdot 100$ percent.

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137-58-2-2981

The "Efficiency" of a Principal-stress Pattern

When wire drawing was done without a back tension, η_3 varied widely along the length of the deformation area; it jumped from 30 to 100 percent, then dropped back again to 65 percent. η_3 increased as the elongation ratio and coefficient of friction increased and as the die-hole taper decreased. The beneficial effect of employing a back tension varied inversely with the coefficient of friction and elongation ratio, and concurrently with the die-hole taper. Use of back tension made possible in all cases the attainment of an η_3 value of 80-85 percent.

Ya.G.

1. Wire drawing—Stress analysis

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25(1) PHASE I BOOK EXPLOITATION SOV/2123

Tarnavskiy, Abram L'vovich

Effektivnost' volocheniya s protivonatyazheniyem (Effectiveness of Back Pull [Reactive] Wire Drawing) Moscow, Metallurgizdat, 1959. 151 p. Errata slip inserted. 2,550 copies printed.

Ed.: A.I. Bass; Ed. of Publishing House: A.G. Golyatkina; Tech. Ed.: M.R. Kleynman.

PURPOSE: The book is intended for engineers, technicians, and scientific workers concerned with the drawing of ferrous and non-ferrous metals.

COVERAGE: The book discusses the basic problems of back-pull bench drawing, including determination of drawing forces, losses in external friction, maximum draft, optimum nib angles, and other parameters. The efficiency, energy consumed, and temperature regimes during back-pull drawing are discussed. Draw benches are described, and technical and economic indices for this type of drawing are

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presented. V.D. Kuznetsov, S.I. Gubkin, and I.M. Pavlov are mentioned as having contributed to the field. The author thanks Professor I.L. Perlin and the Staff of the Department of Metal Forming at Magnitogorskiy gorno-metallurgicheskiy institut (Magnitogorsk Institute of Mining and Metallurgy). There are 75 references: 49 Soviet, 16 German, and 10 English.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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SOV/133-60-3-21/24

AUTHORS: Nedovizly, I. N., Tarnavskiy, A. L.

TITLE: Efficiency of Using Cold-Drawn Wire

PERIODICAL: Stal', 1960, Nr 3, pp 280-282 (USSR)

ABSTRACT: The substitution of rolled rod by cold-drawn wire (which has equal strength) results in considerable economy of metal and cost. This has been verified by the authors on the basis of mathematical and experimental data. The considerable strengthening of low-carbon steel in the process of drawing is shown in Fig. 1. As a result of investigation, the following conclusions were made: (1) The maximum strengthening effect is obtained in deforming low-carbon steel (0.03% C). (2) The rolled rod (6.5 mm diameter) can be drawn to 3.65 mm diameter without loss of elastic strength. (3) The relative economy of metal due to drawing of rolled rod to finished wire equals the reduction of cross-sectional area in

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Efficiency of Using Cold-Drawn Wire

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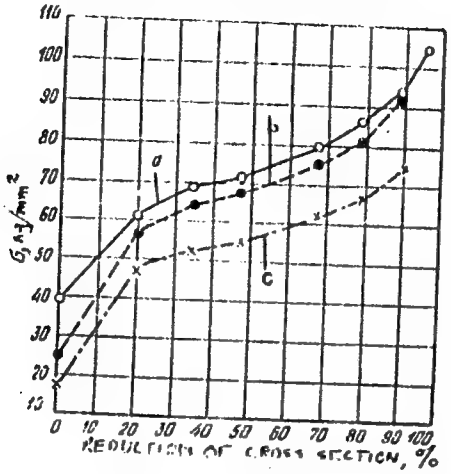

Fig. 1. The effect of drawing on characteristics of deformation resistance of steel wire containing 0.03% C (A. Pomp and V. Knakshtedt). (a) ultimate strength; (b) yield point; (c) elastic limit.

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Efficiency of Using Cold-Drawn Wire

drawing, and results in 55-58% economy of metal. (4) The cost of one linear meter of 4-mm diameter finished wire is 50% lower than 1 meter of 6.5-mm diameter rolled rod. There are 4 figures.

ASSOCIATION: Scientific Research Institute of Hardware Industry (Nauchno-issledovatel'skiy institut metiznoy promyshlennosti)

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38978
S/137/62/000/006/084/163
A052/A101

AUTHOR: Tarnavskiy, A. L.

TITLE: The effectiveness of drawing with a counterpull

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 6, 1962, 24 - 25, abstract 6D154 ("Tr. Konferentsii po metizn. proiz-vu, 1959". Chelyabinsk, 1961, 73 - 79)

TEXT: The advantages of the drawing with a counterpull are described. In most cases the counterpull increases the drawing force, however, sometimes a counterpull of 15 - 47% does not cause any noticeable increase of the drawing force and in some cases, at a counterpull of 15 - 20%, the drawing force even decreases. The dependences of the drawing force on the counterpull, of the counterpull on the deflection angle of the balancing lever of 6/350 mill are given. The modulus of elasticity of brass and Cu wire increases at the drawing with a counterpull, the texture improves, the residual stresses of 1st kind decrease and the torsional characteristics improve. See also RZhMet, 1959, no. 12, 27870.

[Abstracter's note: Complete translation]

N. Yudina

Card 1/1

1.1100

S/137/62/000/005/065/150
A006/A101

AUTHORS: Tarnavskiy, A. L., Ryabchikova, O. A., Revzina, F. S.

TITLE: Cold broaching of shaped wire through profiled non-driving rolls

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 36, abstract 5D205 ("Tr. Konferentsii po metizn. proiz-vu, 1959", Chelyabinsk, 1961, 132-136)

TEXT: The technique is analyzed of manufacturing Z-shaped wire. The advantages of the suggested method are described. The initially developed grooving (schematic drawing presented) showed a number of deficiencies. Therefore, a new grooving system is now being developed. The wire produced according to the new technique offers a higher quality. It is absolutely free of martensite areas, external and internal cracks. Its structure is sorbite with a thin ferrite network. The grains are of normal size. Data are given on the production costs of the wire, manufactured by the conventional and the new technique.

[Abstracter's note: Complete translation]

N. Yudina

Card 1/1

TARNAVSKIY, Abram L'vovich; GURYLEV, Viktor Vasil'yevich; SHUROVSKIY Bronislav Boleslavovich; BERLIN, Ye.N., red. izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Bimetal wire] Bimetallicheskaia provoloka. Moskva, Metallurgizdat, 1963. 123 p. (MIRA 16:7)
(Laminated metals) (Wire)

TARNAVSKIY, A.I., kand. tekhn. nauk

Force applied in drawing with the use of scale breaking rolls. Stal' 25 no.2:182-184 F '65. (MIRA 18:3)

1. Nauchno-issledovatel'skiy institut metiznoy promyshlennosti.

TARNAVSKIY, A.L., kand. tekhn. nauk; TARASENKO, N.V., inzh.

Investigating the possibility of making straight rods in the process of drawing on chain draw benches. Stal' 25 no.8:861-863 S '65. (MIRA 18:9)

ACC NR: AP6022511 SOURCE CODE: UR/0133/66/000/004/0376/0378

AUTHORS: Tarnavskiy, A. L. (Candidate of technical sciences); Shurovskiy, B. B. (Engineer); Nasakina, M. B. (Engineer)

ORG: none

TITLE: Bimetallic steel-copper wire for the production of radio parts

SOURCE: Stal', no. 4, 1966, 376-378

TOPIC TAGS: wire, bimetal, copper, communications wire / 15G steel, 60 steel, 08kp steel, Sv-08G2S steel, Sv-08A steel, Kh18N9 steel, Sv-08GA steel

ABSTRACT: An electrolytic method for the production of bimetallic steel-copper wire containing up to 30% copper was developed. The investigation supplements the results of A. L. Tarnavskiy, V. V. Gurylev, and B. B. Shurovskiy (Bimetallicheskaya provoloka, Metallurgizdat, 1963, str. 8). It was found that steels Sv-08A and Kh18N9 were the most suitable center components of the bimetallic wire because these steels form the most reliable welding joints with other metals as compared with other steels, e.g., 15G, 60, 08kp, Sv-08G2S and Sv-08GA. The electrolytic solution had the following composition: $CuSO_4 \cdot 5H_2O$ 250 g/liter and 75 kg/m^3 sulfuric acid. The electrolysis was carried out at 40—50C. The current density was 250—300 ka/m^2. The thickness of the copper sheath, the electrical resistance, and the usual mechanical properties of the

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UDC: 621.771.42

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3

ACC NR: AP6022511

wire were determined. The experimental results are tabulated. It was found that the use of steel Kh18N9 offers no significant advantages over steel Sv-08A. It is concluded that bimetallic wires may be obtained by both methods, viz.: the electrolytic and metallurgical method described in the above reference. Orig. art. has: 1 table, 1 graph, and 3 equations.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002

Card 2/2 bnp

APANOVICH, Yu.G.; VEDISHCHEV, I.V.; DANYUSHEVSKIY, V.S.; LIPOVETSKIY, A.Ya.; LIPSON, E.A.; TOLSTYKH, I.F.; KHAKHAYEV, B.N.; TARNAVSKIY, A.P.

Cementing and lowering the second intermediate string-liner into the deep Aral-Sor well No.1. Burenie no.2:26-27 '65.

(MIRA 18:5)

1. Trest "Ural'skneftegazrazvedka" i Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika Gubkina.

APANOVICH, Yu.G.; LIPSON, E.A.; KHAKHAYEV, B.N.; TARNAVSKIY, A.P.; NOVIKOV, V.T.; KURUS, I.I.

Accident elimination in the Aralsor super-deep well. Razved. i okh. nedr 30 no.7:48-50 Jl '64. (MIRA 17:12)

1. Aralsorskaya ekspeditsiya sverkhglubokogo bureniya (for Apanovich, Lipson). 2. Trest "Ural'skneftegazrazvedka" (for Khakhayev, Tarnavskiy). 3. Gosudarstvennyy geologicheskiy komitet SSSR (for Novikov). 4. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina (for Kurus).

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3

KHAKHAYEV, B.N.; TARNAVSKIY, A.P.; TOVMA, G.V.

Establishing norms for the consumption of basic materials used in drilling: a topic for discussion. Neft.khoz. 42 no.4:8-11 Ap '64. (MIRA 17:9)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

KHAKHAYEV, B.N.; TARNAVSKIY, A.P.; APANOVICH, Yu.G.; TOVMA, G.V.; LIPSON, E.A.; RAKHMATULLIN, T.K.

Using fishing instruments for metal in the Ural Gas and Oil Prospecting Trust. Burenie no.6:4-7 '64. (MIRA 18:5

1. Trest "Ural'skneftegazrazvedka" i Aral-Sorskaya ekspeditsiya glubokogo bureniya.

1. Tarnavskiy, F.F. ENG

2. USSR (600)

4. ARTESIAN WELLS

7. Operating artesian pipe wells without pumping pipes. -Eng. Gidr. i mel. 4 no. 11, 1952

9. Monthly List of Russian Accessions. Library of Congress, March 1953 Unclassified

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

SOV/133-59-2-25/26

AUTHORS: Zaytsev, M.M., Makarov, A.I., Tarnavskiy, I.L. and Tseytlin, A.Ya., Engineers

TITLE: Scrubbing of Ferromanganese Gas of Dust (Ochistka ferromargantsevogo gaza ot pyli)

PERIODICAL: Stal', 1959, 12, Nr 2, pp 181-188 (USSR)

ABSTRACT: The results of an investigation on the most suitable method of cleaning blast furnace gas from ferromanganese furnaces carried out on a pilot plant installation are described. There are two specific features in cleaning blast furnace gas from ferromanganese furnaces: 1) a large amount of fine particles and 2) on wet cleaning solid deposits are formed on the working surfaces of the gas cleaning plant which rapidly decrease the efficiency of cleaning and necessitate stoppages for cleaning of the plant. The lay out of the experimental plant is shown in figures 1 and 2. It consisted of a "turbulent washer" (a combination of a ventury sprayer and cyclone), scrubber with hurdles, electrostatic precipitator, high pressure blower used as a transporting installation and measuring apparatus. The plant was designed in such a way that the

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Scrubbing of Ferromanganese Gas of Dust

gas after the ventury sprayer could be directed either to the cyclone (in order to test "turbulent" washer as a self-contained cleaning plant) or into the scrubber followed by an electrostatic precipitator (in order to test electrostatic precipitator with a preliminary washing in the ventury sprayer as a self contained plant). In both cases the cleaned gas was discharged into the atmosphere. The dimensions of the ventury sprayer (fig.3) were so calculated as to obtain a gas velocity in the ventury about 115 m/sec at a throughput of about 1600 m^3/hr. Water for spraying was supplied through a tube situated along the ventury axis, with 16 nozzles of 2.5 mm in diameter. To prevent the sedimentation of dust on the surface of the tube a continuous film of water, along the whole perimeter, was maintained (see fig.3). The consumption of water for the latter was constant (610-670 l/hr per linear metre of tubes periphery). For the same reason water was supplied to the cyclone of 440 mm in diameter (fig.4) in an amount of 600 litres/hr through four injectors placed tangentially to the internal cross section of the apparatus (at an angle of 8-10°).

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Scrubbing of Ferromanganese Gas of Dust

The scrubber, of a diameter of 200 mm with two rows of hurdles (fig.5), was calculated for a gas velocity of 1.5 m/sec. Water for spraying the hurdles was supplied through 8 sprayers. The electrofilter of the DM type (fig.6) 1500 mm in diameter contained 7 precipitating tubes with an internal diameter of 300 mm (external 325 mm) which were continuously washed. An additional periodic washing of precipitating tubes and electrodes with "evolvant" sprayers was provided. The chemical composition of samples of flue dust and their size distribution and chemical composition of the individual size fractions are given in tables 1 and 2 respectively. Flue dust possesses hydraulic properties - on decreasing moisture content to 50% it solidifies. Tests of the "turbulent washer" (ventury sprayer and cyclone) as a complete unit indicated that at the average dust content of dirty gas of 10 gr/m^3 the residual dust content from 200 to 150 mg/m^3 at a hydraulic resistance of the ventury tube from 700-900 mm of water respectively (fig.7). The above dust content is above the permissable limits and

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Scrubbing of Ferromanganese Gas of Dust

therefore the "turbulent washer" was found to be inadequate for the purpose. The operation of the electrostatic precipitator was tested in conjunction with the ventury sprayer and hurdled scrubber. The supply of water to ventury was constant and amounted to 1000 litres/hr of which 300 litres/hr passed through the central sprayer and 700 litres/hr in the form of peripheral film, the specific consumption of water was from 0.1 to 0.27 litres/m^3 and from 0.25 to 0.60 litres/m^3 respectively. Specific consumption of water in the scrubber was 3-4 litres/m^3 of gas. Consumption of water in the electrostatic precipitator was 300-350 litres/hr per peripheral metre of hurdles. Periodic washing of electrodes was done twice per shift for 10-12 minutes. The experimental results are given in table 3. The dependence of the dust content of clean gas on the density of corona current and on the voltage of feeding current are given in figures 8 and 9 respectively, the dependence of the dust content at the inlet and outlet of the electrostatic precipitator on the hydraulic resistance of the ventury sprayer in fig.10 and the dependence of the dust content in clean gas on the

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001755010018-3"

Scrubbing of Ferromanganese Gas of Dust

velocity of gas in the active zone of electrostatic precipitator in fig.11. The results obtained indicated the suitability of the equipment for the fine cleaning of gas. The basic problem which still requires solution is the prevention of the formation of solid deposits, particularly in the ventury sprayer. During tests 20 mm thick deposits were formed in the outlet of the diffusor in 10 days which prevented its further operation. On the basis of the results obtained the following conclusions are drawn: 1) fine cleaning of blast furnace gas from ferromanganese furnaces can be carried out in an electrostatic precipitator with a preliminary cleaning in the ventury sprayer at a gas velocity in the active zone of the electrostatic precipitator of the order of 1.5 m/sec and the hydraulic resistance in the sprayer of 300-350 mm H_2O. 2) In spite of the insignificant depositions of solids on the hurdles in the scrubber, the use of non-filled scrubber is recommended. 3) For the industrial application of the gas cleaning scheme it is